

WHAT IS CLAIMED IS

1. A portable object such as, in particular, a timepiece including display means of at least a data item and a case formed of an upper part including a crystal covering said display means and a lower part delimited by a back cover located below said display means, this object further including means for controlling at least an
- 5 electronic function such as an horological function, these control means including at least a touch-sensitive key for selecting the desired electronic function, an electronic data processing circuit identifying the touch-sensitive key activated by touching said key with a finger and deducing therefrom a character or operation thereby selected, wherein the control means further include a strain gauge allowing the selection of the
- 10 desired electronic function to be confirmed and/or the electronic function to be activated, the confirmation and/or activation of said electronic function being effected by applying pressure to the portable object via the effect of which the strain gauge generates a control signal which will be applied to an electronic data processing circuit, said portable object also being able to include means able to emit an acoustic
- 15 signal to indicate to a user that the desired function has actually been switched on.
2. The portable object according to claim 1, wherein the confirmation and/or validation of the desired electronic function is effected by pressing down on the particular touch-sensitive key which allows said desired electronic function to be selected.
- 20 3. The portable object according to claim 1, wherein the strain gauge is rigidly connected to the case.
4. The portable object according to claim 3, wherein the strain gauge is bonded to the back cover of the case.
5. The portable object according to any of claim 1, wherein the strain gauge
- 25 is selected from among the group comprising piezoelectric, resistive and capacitive sensors, which are able to generate an electric voltage when a mechanical pressure is exerted on the case, the voltage generated by the force sensor being applied to a first electronic circuit which will generate a logic signal in response to the pressure exerted, this logic signal being applied to the electronic data processing circuit.
- 30 6. The portable object according to claim 5, wherein the strain gauge is formed of an element made of a piezoelectric ceramic material bonded between two top and bottom metal electrodes.
7. The portable object according to claim 5, wherein the strain gauge is formed by a ceramic material directly bonded to the back cover of the case when the
- 35 latter is made of metal.

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8. The portable object according to claim 5, wherein the strain gauge is formed by an element made of a piezoelectric ceramic material and bonded onto a metal disc which is itself bonded onto the back cover of the case.

5 9. The portable object according to claim 5, wherein, when the strain gauge is formed by a piezoelectric transducer, the first electronic circuit includes means for amplifying and converting into a logic signal the voltage generated by the piezoelectric transducer via the effect of the mechanical pressure exerted.

10 10. The portable object according to claim 9, wherein it further includes a second electronic circuit which causes the piezoelectric transducer to operate as a source of vibrations for an acoustic generator.

11. The portable object according to claim 10, wherein the first electronic circuit also includes means for filtering the electric pulses generated by the piezoelectric transducer when it operates as an acoustic generator, so that said piezoelectric transducer can be simultaneously used as an acoustic generator and as  
15 means for detecting pressure exerted on the portable object.

12. The portable object according to claim 1, wherein the data inputting system via tactile pressure uses capacitive, ultrasound or infrared keys.

13. The portable object according to claim 12, wherein at least a part of the touch-sensitive keys is carried by the crystal.

20 14. The portable object according to claim 12, wherein the touch-sensitive sensors are of the capacitive type, their sensitive pads being formed by transparent electrodes deposited on the lower face of the crystal.

25 15. The portable object according to claim 14, wherein the sensitive pads of the touch-sensitive sensors are arranged in the form of a matrix defining lines and columns which extend over most of the crystal.

16. The portable object according to claim 14, wherein each electrode is electrically connected to the data processing circuit via a plurality of contact pads located on the periphery of the crystal and two connectors which carry over the electric contacts from the lower face of the crystal onto the upper face of a printed circuit  
30 board.

17. The portable object according to claim 16, wherein the connectors are each formed of a succession of vertical conductive and insulating strips, for example made of elastomer.

35 18. The portable object according to any of claim 1, wherein it is powered by an accumulator able to be recharged by induction.

19. The portable object according to any of claim 1, wherein it includes display means for time-related or other data.

20. The portable object according to claim 19, wherein the display means are formed of a matrix type liquid crystal display cell.

21. The portable object according to claim 19, wherein the display means are formed of analogue time display means including an hour hand, a minute hand and a  
5 seconds hand which move above a dial which may be formed by a liquid crystal display cell capable of displaying various types of information or data.

22. A method for controlling at least an electronic function such as an horological function of a portable object according to any of the preceding claims, including the step of selecting the desired electronic function by applying a finger to  
10 the touch-sensitive key associated with said function, wherein it further includes the step of exerting a mechanical stress on the portable object to confirm the selection of said function and/or to activate said function and, if necessary, to generate an acoustic signal to indicate to a user that the desired function has actually been switched on.

23. The method according to claim 22, wherein the stress intended to confirm  
15 and/or activate the desired electronic function can be exerted at the same time that the acoustic signal is generated.

24. The method according to claim 22, wherein the selection is confirmed and/or in that the desired electronic function is activated by exerting a mechanical stress right above the particular touch-sensitive key which has allowed said desired  
20 electronic function to be selected.

25. The method according to claim 22, wherein, when the portable object is in a timing mode, said portable object is set in a standby mode in which it displays other data, the user nonetheless keeping the possibility of stopping timing or measuring an intermediate time at any moment by lightly touching the appropriate  
25 touch-sensitive key and pressing the same key to validate the selection.